

USE OF INFORMATION TECHNOLOGY TO ENHANCE THE COMPETITIVENESS OF THE RUBBER PRODUCTS MANUFACTURING INDUSTRY IN SRI LANKA

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This research dissertation was submitted to the Department of Management of Technology of the University of Moratuwa in partial fulfillment of the requirements for the Degree of Master of Business Administration in Management of Technology.

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DECLARATION

"I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any University to the best of my knowledge and belief it does not contain any material previously published, written or orally communicated by another person except where due reference is made in the text."

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CONTENTS

VI	LIST OF ILLUSTRATIONS.....	1
VII	LIST OF TABLES.....	2
VIII	LIST OF ABBREVIATIONS.....	3
IX	ACKNOWLEDGEMENT.....	4
X	ABSTRACT.....	5

CHAPTER ONE

1.0	INTRODUCTION.....	7
1.1	BACKGROUND.....	7
1.2	THE RESEARCH PROBLEM.....	11
1.3	PURPOSE OF THE STUDY.....	11
1.4	OBJECTIVES OF THE STUDY.....	12
1.5	SIGNIFICANCE OF THE STUDY.....	12
1.6	METHODOLOGY.....	14
1.7	SCOPE AND LIMITATIONS.....	15
1.8	ORGANIZATION OF THE STUDY.....	16

CHAPTER TWO

2.0	LITERATURE REVIEW.....	18
2.1	SRI LANKA RUBBER PRODUCTS MANUFACTURING INDUSTRY.....	18
2.2	SRI LANKA RUBBER PRODUCTS MANUFACTURING INDUSTRY - MAIN CATEGORIES	21
2.2.1	<i>Dry Rubber Based Products Manufacturers</i>	21
2.2.2	<i>Latex Based Products Manufacturers</i>	21
2.2.3	<i>Tyre Retreading Industry</i>	22
2.2.4	<i>Footwear Industry</i>	22
2.3	CAPITAL, ENERGY & ENVIRONMENT	22
2.4	RUBBER PRODUCTS EXPORTS.....	23
2.4.1	<i>Tyres</i>	25
2.4.2	<i>Footwear</i>	25
2.4.3	<i>Foam Rubber Products</i>	25
2.4.4	<i>Dipped Products</i>	25
2.4.5	<i>Moulded Rubber Products</i>	26
2.5	TRANSFORMATION OF TECHNOLOGIES USED IN THE RUBBER PRODUCTS MANUFACTURING INDUSTRY....	26
2.6	GLOBAL TREND IN THE RUBBER PRODUCTS MANUFACTURING INDUSTRY	28
2.7	MAXIMUM VALUE CREATION/ ADDITION POTENTIAL ANALYSIS	30
2.8	THE HYPOTHETICAL SITUATION	31
2.9	COMPETITIVENESS	31
2.9.1	<i>Productivity Indexes</i>	35
2.9.2	<i>Competitiveness of Firm: The Macro Level</i>	36
2.9.3	<i>Information Technology and Competitive Advantage</i>	36



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2.9.4	<i>Information Intensity Matrix</i>	39
2.9	SUMMARY	44

CHAPTER THREE

3.0	CONCEPTUALIZATION & FRAMEWORK OF STUDY	46
3.1	STATEMENT OF THE PROBLEM	46
3.2	CONCEPTUAL MODEL	50
3.2.1	<i>Explanation of the Model</i>	50
3.2.2	<i>The Hypothesis</i>	51
3.2.3	<i>Defining the Key Variables</i>	51
3.2.3.1	<i>Organizational IT Competency</i>	51
3.2.3.2	<i>IT Deployment Capability</i>	53
3.2.3.3	<i>Productivity</i>	54
3.2.3.4	<i>Productivity Measurement</i>	55
3.3	MEASUREMENT OF KEY VARIABLES	58
3.3	SUMMARY	60

CHAPTER FOUR

4.0	METHODOLOGY	62
4.1	THE SAMPLE	62
4.2	COLLECTION OF DATA	62
4.3	PROFILES OF THE COMPANIES SELECTED FOR THE SURVEY	62
4.4	DESIGNING OF THE QUESTIONNAIRE	64
4.5	DATA ANALYSIS	65
4.5.1	<i>Computation Labour Productivity</i>	65
4.6	SUMMARY	72

CHAPTER FIVE

5.0	ANALYSIS OF FINDINGS.....	74
5.1	CORRELATION ANALYSIS	74
5.2	SIGNIFICANT CORRELATION WITH PRODUCTIVITY	78
5.3	SOME OBSERVATIONS	81
5.4	SUMMARY	81

CHAPTER SIX

6.0	DISCUSSION AND CONCLUSIONS	83
6.1	EVALUATION OF HYPOTHESIS	83
6.2	RESEARCH CONCLUSION AND RECOMMENDATIONS	87
	REFERENCES.....	90

APPENDICES

APPENDIX 1 – QUESTIONNAIRE

APPENDIX 2 – SCATTER DIAGRAMS

	Page
FIGURE 2.1 : GLOBAL RUBBER CONSUMPTION NR & SR IN 2001.....	29
FIGURE 2.2 : THE COMPETITIVENESS PYRAMID.....	34
FIGURE 2.3 : INFORMATION INTENSITY MATRIX.....	39
FIGURE 3.1 : THE VALUE CHAIN (MICHAEL PORTER'S MODEL).....	48
FIGURE 3.2 : INFORMATION TECHNOLOGY PERMEATE THE VALUE CHAIN.....	49
FIGURE 3.3 : THE CONCEPTUAL MODEL – RELATIONSHIP BETWEEN THE STUDY VARIABLES.....	50
FIGURE 3.4 : IT APPLITUDE.....	52
FIGURE 3.5 : IT DEPLOYMENT CAPABILITY.....	54



	Page
TABLE 1.1 : PRESENT STATUS OF THE RUBBER PRODUCTS INDUSTRY IN SRI LANKA.....	8
TABLE 1.2. : GLOBAL PRODUCTION & CONSUMPTION OF RAW RUBBER IN M. TONS.....	8
TABLE 1.3 : INDUSTRY WISE ADDED VALUE CONTENT.....	13
TABLE 2.1 : PERFORMANCE OF RUBBER PRODUCTS EXPORTING FIRMS 1998-2002.....	24
TABLE 2.2 : RUBBER GLOVES EXPORTED TO US MARKET.....	26
TABLE 2.3 : WORLD CONSUMPTION NR AND SR – (1995 – 2000).....	28
TABLE 3.1 : MEASUREMENT OF ORGANIZATIONAL IT COMPETENCY.....	58
TABLE 3.2 : MEASUREMENT OF IT DEPLOYMENT CAPABILITY.....	59
TABLE 3.3 : MEASUREMENT OF PRODUCTIVITY.....	60
TABLE 4.1 : COMPARISON OF LABOUR PRODUCTIVITY.....	66
TABLE 4.2 : COMPARISON OF COST RATIO PRODUCTIVITY.....	67
TABLE 4.3 : PRODUCTIVITY – FINAL SCORE SHEET.....	68
TABLE 4.4 : COMPANY WISE ANALYSIS OF SCORES FOR ORGANIZATIONAL IT COMPETENCY.....	69
TABLE 4.5 : COMPANY WISE ANALYSIS OF SCORES FOR ORGANIZATIONAL IT DEPLOYMENT CAPABILITY.....	70
TABLE 4.6 : APPROPRIATE USE OF IT FINAL SCORE SHEET.....	71
TABLE 4.7 : RELATIONSHIP OF APPROPRIATE USE OF IT VS PRODUCTIVITY.....	72
TABLE 5.1 : COMPANY-WISE ANALYSIS OF ORGANIZATIONAL IT COMPETENCY AND ITS COMPONENTS.....	75
TABLE 5.2 : COMPANY –WISE ANALYSIS OF IT DEPLOYMENT CAPABILITY AND ITS COMPONENTS.....	75
TABLE 5.3 : COMPANY-WISE ANALYSIS OF PRODUCTIVITY AND ITS COMPONENTS.....	76
TABLE 5.4 : RANGE, MEAN AND STANDARD DEVIATION.....	77
TABLE 5.5 : CORRELATION OF STUDY VARIABLES WITH PRODUCTIVITY.....	77
TABLE 5.6 : REGRESSION SUMMARIES OF DEPENDENT VARIABLE PRODUCTIVITY WITH EIGHT INDEPENDENT VARIABLES.....	79
TABLE 5.7 : COMPANY-WISE ANALYSIS OF STUDY VARIABLES AGAINST THEIR RESPECTIVE MEAN VALUES.....	80
TABLE 5.8 : COMPANY RANKING AS PER STUDY VARIABLES.....	81

ANOVA	- Analysis of Variance
BOI	- Board of Investment
CAD-CAM	- Computer Aided Design/Computer Aided Manufacture
CNCI	- Ceylon National Chamber of Industries
CEO	- Chief Executive Officer
CRP	- Cost Ratio Productivity
EDB	- Export Development Board
FDI	- Foreign Direct Investment
GDP	- Gross Domestic Product
ITI	- Industrial Technology Institute
IT	- Information Technology
LAN	- Local Area Network
LP	- Labour Productivity
MOT	- Management of Technology
NIC	- Newly Industrialized Country
NR	- Natural Rubber
SR	- Synthetic Rubber
SAPTA	- South Asian Preferential Trade Agreement
SLAMERP	- Sri Lanka Association of Manufacturers and Exporters of Rubber Products
UNIDO	- United Nations Industrial Development Organization
USAID	- United States Agency for International Development
WAN	- Wide Area Network
TQM	- Total Quality Management
ISO	- International Organization for Standardization
QA System	- Quality Assurance System
MB	- Mega Byte

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MBA-MOT programme a unique hybrid of management and technology, fulfills today's needs of regaining Sri Lanka.

Rubber has occupied a significant position in the economy of Sri Lanka for a longtime. Raw rubber earned valuable foreign exchange in the past, while in the recent times the value added rubber products have overtaken the export earnings from raw rubber. Today, the local value addition to rubber is done at a considerably higher level, converting over 65% of the raw rubber, and over 20% of raw rubber is exported as 'crepe rubber', which is also marketed as a product, called "Lankaprene".

Globalization has opened up boundaries, permitting countries to extend business to the world, thus creating a competition. Global rubber industry grows steadily and the local rubber industrialist have now an opportunity to be 'global', by competing with the rest of the world. At present Sri Lanka's share in the global rubber products market is as low as 0.25%, if increased to 1%, would yield a turnover of LKR 140 billion creating a sizable direct employment. This industry is now declared as a 'Thrust Industry' having identified the potential and the ability to enhance competitiveness.

Today, the Internet-era, information technology is advancing faster than other technologies, and the cost is falling rapidly. Sri Lanka's rubber products manufacturing industry compares well with global players with respect to availability of raw materials, technologies, manpower etc, but could be identified as less sophisticated and automated which can only be achieved with the use of information technology.

In this research an attempt has been made to study the level of information technology used in the rubber products industry in Sri Lanka and how it has influenced the competitiveness. The researcher used Michael Porter's 'Value Chain Model' and surveyed how each value chain activity has been improved by the use of information technology appropriately, and the effect of those improvements on the final productivity which is considered as an indicator of competitiveness.

It was hypothesized that, the Sri Lanka's rubber product industry productivity is positively related to the appropriate use of information technology in the value chain activities. The study was carried out using a questionnaire developed to measure the level of information technology used in value chain activities and the productivity resulted. Twelve major rubber product-manufacturing companies were sampled covering over 90% of the population.

The hypothesis was well supported by the finding showing a very strong positive correlation between the productivity and the appropriate use of information technology.

This research reveals that the information technology could be used in value chain activities, very successfully achieving productivity in terms of cost leadership and product differentiation, which could be used as strong weapons to combat the global competition.